Roinn Cumarsáide, Gníomhaithe
ar son na hAeráide & Comhshaoil
Department of Communications,
Climate Action & Environment

24 April 2019

Mr Robert Watt
Secretary General
Department of Public Expenditure and Reform
Government Buildings
Upper Merrion Street
Dublin D02 R583

Dear Robert,

I refer to your letter of 16 April in relation to the National Broadband Plan.

Your letter is written against the backdrop of experience gained from the National Children's Hospital (NCH) project. The NBP is very different from the NCH project and the principles underlying the conclusions of PwC have been fully applied throughout the NBP project lifecycle – no commitment made before full tender cost exposed; repeated reappraisal of the proposal to see were there better options; very robust due diligence of risk and cost, deploying the required sectoral expertise throughout; and a detailed plan being put forward for governance to minimise any unforeseen risk.

Appendix 1 sets out where comparisons can be drawn between the NCH and the NBP projects, where we have differed in our approach and where I believe the critical issue of "cost overruns" noted in the NCH review has been addressed and contained within the structure of the NBP contract, prior to awarding a contract, to avoid issues identified in the PwC report arising *ex post*.

The issue for Government is, of course, whether the final and carefully evaluated project represents value for money.

Potential Subsidy
My Department has presented what is believed to be the pessimistic scenario in terms of an ultimate cost to the State over the 25 years. As an alternative to an arbitrary risk premium being added to the subsidy by the Bidder, the Department has ensured that project risk is transparently accounted for, is contained through a capped exposure and must be proven as incurred before any contingency amounts are paid. The overall subsidy sought of nearly €3billion includes €545m (including VAT) for conditional and contingent subsidy and includes €354m in VAT, which will be paid to the Revenue Commissioners as subsidy is spent. The Department is optimistic that the Bidder will achieve savings through its own procurement of subcontractor services and purchases of materials/equipment which should reduce the cost to the State.

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By year 10, all premises in the Intervention Area will have access to high speed broadband and the NBP Company will have annual revenue of around [redacted] which is expected to more than cover the annual operating costs over the remaining 15 years and beyond.

Cost Benefit Analysis

In keeping with the Public Spending Code, a CBA has been undertaken for the NBP. That CBA has been updated a number of times to reflect material changes including to the number of premises in the intervention area, in particular following eir entering a commitment agreement to build a network providing future proofed high speed broadband access to 300,000 premises in the intervention area. While the eir 300k was positive in terms of ensuring early access to a high speed broadband service for those premises included, it resulted in removing considerable future revenues from the NBP CBA with no corresponding reduction to NBP network build cost. The CBA was also updated at milestones where the project budget estimate was revised, including when a comprehensive project reappraisal was carried out last year when eir withdrew from the procurement process. The current iteration of the CBA remains positive even in the pessimistic scenario.

The Department has consistently called into question in engagement with your Department the effectiveness of the CBA methodology for bespoke projects such as the NBP. As noted in the CBA reports provided to your Department, the availability of ubiquitous high speed broadband will bring significant benefits in the areas of education, e-health, tourism, regional development, social inclusion, etc which cannot be captured by the methodology that applies to CBAs under the Public Spending Code. The methodology has limitations as an analytical tool when the actual benefits that will result cannot be fully measured due to there being insufficient data available to empirically demonstrate the benefits of new and emerging technologies, or where it is very difficult to anticipate the advances in new applications and services that will be available over broadband networks a decade and more from now.

Government investing in a future proofed broadband network over which Irish citizens will access electronic services, many of which have not yet been developed or even contemplated, is not a "leap of faith". It is in fact entirely consistent with the strategy of successive Irish Governments in promoting the development of Ireland as a digital leader in the EU and growing the high tech sector of our economy. Not to intervene where the market has failed would likely result in the marginalisation of rural communities. The benefits of social inclusion (and in this case, not leaving 23% of our households or businesses behind in a world being transformed by digital technologies) are significant as an objective of public policy and have been invoked time and again for public support .

It is true that the benefit estimated at €12,000 per home on existing usage patterns (without considering the new opportunities it will open up in the future) will substantially accrue to individuals. But those individuals and businesses will pay at least 50% of the overall project cost through recurring charges for services provided.

We have, as you know, carefully looked at alternative options – "Plan B" - and neither of our teams offered any realistic alternatives other than to indefinitely exclude rural Ireland from the benefits of digital connectivity.

Project Risk

It is undeniable that the NBP, like any significant capital project, comes with risk. This is the very reason why a competitive dialogue process was adopted for the NBP procurement and why the Department has spent nearly three years establishing what is a very strong contract, designed to ensure delivery of the Government's objective while protecting the State's investment. Through dialogue with the three shortlisted consortia (over 800 hours in total) around all technical and commercial risks, the Department established a robust internal model of likely costs and revenues, has carried out considerable benchmarking to Irish and International broadband projects and included mechanisms in the contract to protect the Exchequer. This extensive engagement has resulted in a robust budget model where both construction risks and revenue risks have been captured in advance of any contract being awarded.

Through the dialogue process the Department and bidders identified 14 activities/risks that may be unavoidable and which could give rise to additional subsidy. As the overall conditional subsidy pot is capped, the Bidder must ensure costs stay within the pot, or else it must bear the cost overrun itself from its own funds. Any subsidy sought by the Bidder will only be paid where the bidder has submitted a revised bid model to show there has been a net negative impact from that assumed in 2018 from one or more of those risks materialising. This model would then be audited and only then can conditional subsidy be paid out, up to the capped amount.

One of the main areas of risk for the project is the timing of take up, rather than the level of take up. The Bidder has taken a somewhat pessimistic view on the likely pace of take up over the first 10 years. While it expects that, in time, it will connect 80% of the addressable market in the Intervention Area, the pace of connections year on year has a significant impact on the 25 year net present value of the project and thereby, the subsidy required. As bidders to such projects across Europe tend to take a similar approach, the State Aid Guidelines require contracts to include clawback in the event of higher than expected take up. In the UK for example, we understand BT included an assumed 20% take up in their bid in the early years and the actual take up in the initial years was over 40% which resulted in the authorities in the UK clawing back over £700m from BT.

Technology choice

The technology solution proposed by the Bidder is predominantly a "fibre to the premises" (FTTP) solution. This was the technology choice proposed by all three bidders in the procurement process. It is the technology that is being rolled out by SIRO to 500,000 premises in cities and towns throughout Ireland and by eir in its rural network serving over 300,000 premises. Recently eir has announced its intention to overbuild its urban network to bring FTTP to a further 1.4 million premises in urban areas. FTTP is also the technology being rolled

out in many other EU Member States including the UK, France, Germany, Portugal and Sweden.

The main reasons that bidders chose fibre to the premises as their proposed solution is because it is the most efficient and cost effective means of delivering on the project's objectives and ensuring there is no need for further State interventions in ten years' time. A full fibre network is a high capital/low operating cost model compared to a fixed wireless network which is low capital/high operating cost model. Full fibre may take longer to build but will require limited upgrade and maintenance, whereas wireless networks may be faster to build but require significant upgrades and maintenance. A full wireless network would also require the building of thousands of additional masts requiring development consent/planning permission with the attendant delays that this can bring. When the Department and bidders modelled both options, factoring in 25 year requirements, the full fibre model was clearly the better option in terms of its cost over the long-term and meeting the policy objectives.

For some premises a wireless connection will be more cost effective, and this is provided for, with decisions on the premises to be served with a wireless connection being made on a case by case basis at the low level design stage, during network rollout.

While there has been some commentary that a future 5G rollout could deliver on the objectives of the NBP, reports by ComReg and Analysys Mason (shared with your Department) have concluded that 5G is a complementary and not a competing technology to FTTP. This is a view that has been supported in public commentary by Vodafone and eir. It is also supported by the decisions of the major telecommunications companies to significantly invest in FTTP networks, both in Ireland and internationally. There has been extensive engagement between our two Departments on the question of technology choice and I understand that both Departments are in no doubt that the FTTP solution proposed by the NBP Bidder is the most future proofed technological solution available.

The importance of future proofing the network cannot be over-stated. A decade ago the Government intervened in the market with the National Broadband Scheme which guaranteed download speeds of 3Mbps to every household. By 2010 the EU Commission had identified 30Mbps download speeds as the minimum service that should be available to all European households by 2020, with the ambition that by then more than half of European households would actually subscribe to a service with download speeds of greater than 100Mbps. By 2016 the EU had revised upwards the target for Member States to achieve by 2025 to a basic service of 100 Mbps for all households and 1Gbit connectivity for heavy users. The FTTP solution proposed by the NBP Bidder would leave Ireland well placed to meet this element of the EU Digital Single Market and ensure Ireland continues to be amongst the digital leaders in the EU.

A fibre service which is built off the existing privatised telecommunication network will not be stranded but connected. Once the fibre is placed on eir poles and in eir ducts (predominantly) it will always be available for use. In the event the current Bidder cannot achieve the rollout plan envisaged for whatever reason, the contract provides a right to the Minister to step in and ensure existing services continue to be provided.

Performance Management

The Bidder is required to maintain a high quality of service both in the delivery of the network deployment and in the delivery of the broadband service to end users. There are extensive quality checks and monitoring obligations included in the contract with the Bidder which incentivise the Bidder to meet and exceed the quality of service requirements.

A comprehensive set of key performance indicators has been set out against a range of matrices to measure the Bidder's performance including deployment targets, availability of the service, the broadband speeds delivered, the time taken to connect premises once orders are received etc. The State will levy significant penalties if the Bidder fails to hit the targets set out and where certain targets are not met, the State may terminate the contract.

Payment of subsidy is linked to the Bidder presenting a fit for purpose design for each of the 100 areas, showing they have actually passed all premises in each area and also that retail providers confirm that each home or business is successfully connected. If no connections have been made then no connection subsidy will be paid. Where a connection is made it will be in place for as long as the homeowner requires a service, regardless of whether the contract with the Bidder is terminated or not.

Where the Bidder believes elements of construction costs such as labour and materials are likely to result in the drawdown of conditional subsidy, the Department must also see proof from the Bidder that the best market rates have been achieved by it through a robust procurement process. The Bidder is required to notify the Department of all tenders issued by the Bidder for subcontractors and materials over the deployment period and demonstrate how it has achieved value for money.

The Department can require a benchmarking exercise to be undertaken against the operations of NBPco, for example, with other comparable companies providing similar operations. If the benchmarking review indicates that NBPco's operating costs are materially in excess of market norms, the Department can require NBPco to re-tender for many of the operations activities.

The Department has made strong Governance a red line in all its negotiations since 2016 when dialogue first commenced. The governance provisions in the contract include requirements to establish a ring fenced company where all private and public finances are fully committed from day 1, where all transactions have full traceability and the day to day operations of the company are fully transparent, with it acting in an open and non-discriminatory manner.

Deployment clawback

The NBP Contract allows the State to recoup cost savings made by the Bidder during its network deployment. Where the cost of construction and build are less than forecast in the bid, the State will recoup [redacted] where it was considered important to provide a clear commercial incentive to the Bidder to manage costs efficiently. This mechanism has the potential to reduce the subsidy to the State over the first 7 years of the contract.

The Department will, from contract award, oversee the Bidder's procurement process and design plans to ensure they achieve value for money. Where the Bidder achieves savings in the following high cost areas, the State will recoup 100% of any savings achieved at the end of the deployment period:

- fibre materials and equipment;
- costs not incurred under the Conditional Subsidy;
- regulated prices (which are expected to be reviewed by ComReg in the near term); and
- any change from full fibre to a wireless solution for certain premises.

Excess profit clawback during operations

If the Bidder exceeds its forecasted business performance over the 25 years, for example, by achieving higher than expected overall revenues, the State will receive a minimum of [redacted] of any excess profits earned by the Bidder.

Sale of NBPco

In the event that the equity providers sell the majority of their shareholding in NBPco in the first ten years of the contract, the State will be entitled to clawback of any excess profit on sale. Any sale requires Ministerial approval and all contract obligations endure on transfer of shares.

Terminal value (end of life) clawback

The NBP Contract allows for the State to get a benefit of the future value of NBPco through a Terminal Value Clawback mechanism. The Terminal Value Clawback mechanism is calculated at the end of year 25 based on the average EBITDA (earnings before interest, tax, depreciation and amortization) of the last 3 years of the contract, where the State gets 40% clawback on any increased future value of NBPco, measured in terms of 10 times actual EBITDA versus the forecast EBITDA for year 25 set out in the bid model.

With regard to the calculation of the terminal value, the NBP Contract provides that at year 23 a terminal value review will commence which will assess the average actual EBITDA over the last three contract years and multiply this by 10 (EBITDA multiple) to establish the Terminal Value. This is a typical method of valuing private companies in the market. It would not be possible to establish the true market value of a company without a formal sales process and engaging interested buyers at that time. The estimate of future profits will be based on the latest available annual independently audited financial statements of NBPco and the Department will seek independent experts to make the final assessment and calculation of clawback owed to the State should the terminal value calculation in 25 years' time exceed that put forward in the 2018 bid model.

Cost of Connections

The average cost of connecting premises within the Intervention Area is estimated to be around [redacted]

Under the current regulatory regime prescribed by the European Commission for the universal availability of voice services in each Member State, retail service providers are charged circa €117 by the Universal Service Provider eir for any new fixed voice connections across the State. ComReg have set a Regulated Access Threshold of €7,000 over which the consumer must make a contribution for any incremental cost above this. Over the past twenty years eir have successfully cross subsidised the cost of this obligation through profits from its overall national business.

The Department has followed the same regime under the draft contract, except a lower threshold of €5,000 will be used. The new NBP company will not have profits to cross subsidise broadband connections thereby requiring the subsidy from the State. The connection charge under the draft contract has been set at no more than €100 ex VAT. This was consulted on in 2015 and approved by Government to ensure end users in the intervention area enjoy the same or similar connection charges as those in areas served by commercial operators. It is also consistent with the typical economic business model appropriate to a high fixed cost/low variable cost network rollouts. It would be counter intuitive to charge consumers a high connection charge upfront which would only result in dampening demand and lost wholesale revenue over the long run. All telecom networks must gain economies of scale and scope quickly to succeed and getting consumers connected as soon as possible is critical. My Department previously shared with your Department analysis of the short term revenue gain versus the long term impact on the business case should a high connection fee be charged. The outcome shows that it is not a material consideration from an overall subsidy perspective, but is material where the policy is to maximise the use of the network for all the reasons set out in the CBA.

You are correct that where a business or home owner elects for a higher cost connection option for aesthetic reasons that they will be required to bear any incremental cost over that which would apply using the most cost effective solution. Furthermore, for more hard to reach premises, the option remains to provide a wireless solution if this is more cost effective.

Equity investment

The Bidder is putting forward [redacted] equity plus an additional [redacted] orking capital facility should it encounter cost overruns which are not included in the capped subsidy. This is a substantial private investment. The higher the level of equity the higher the cost to the State as equity returns are substantially higher than the cost of debt as they take more market risk.

The key consideration by the Department is whether the private sector has sufficient incentive to deliver on the objectives in a timely, efficient and cost effective manner. The equity providers are taking the following risk:

- The Bidder must place a bond of €20m with the State which will not be returned in event of material breach of contract during first 2 years of build phase.
- The Bidder may suffer performance credits for non-compliance with contract, for example missing connection targets – up to a cap of [redacted] per annum.
- The Bidder may also receive less returns than their target if there are cost overruns/less demand compared to that provided for in the capped subsidy amounts

agreed. For example, instead of achieving a [redacted] return they may only get a 5% return where the business under performs – this is a substantial risk to the Bidder and also places onus on them to be efficient. Ultimately if the Bidder is left in a position where it requires more funding the Bidder has a choice of injecting more capital or handing back the assets/business to the State; the latter comes with significant reputational damage as well as financial losses.

[redacted]

- The Bidder is also at risk for material breach of warranties and indemnities etc up to [redacted] on a sliding scale basis over the 25 years.

Ownership of the network

There has been some considerable focus on the ownership of the network, in particular having regard to the level of State subsidy required.

The ownership issue was debated in detail in 2015 and 2016. Prior to the Government Decision in July 2016 to follow the Gap Funded model, the Department established a working Group made up of officials from our Departments, the Department of Finance, NDFA and NewEra to critically assess the recommendations from the KPMG expert report on ownership options and responses from the 2015 public consultation. There was consensus across all officials at that time that owning part of a network at the end of 25 years was unnecessary where the market can deliver on the ultimate objective of addressing the market failure identified using an agreed subvention.

The high upfront share of the state's subsidy which you point to as a risk factor is inherent in the funding model. Gap funding means the state heavily subsidises this non-commercial investment in the early part of the roll-out, when network has to be laid down but revenues are small. We have asked the private sector to design, build and operate a service which is not commercial. Investors who will take on this work will expect returns commensurate with undertaking similar investment and risk elsewhere in the sector. The rate of return which has

been built into the model is commensurate with what applies elsewhere, as has been verified by the evaluators whom we employed.

The gap-funded/commercial stimulus ownership option was originally chosen and approved by Government on the basis that:

- It can provide the benefits and protections traditionally sought from public ownership including the various provisions set out in the contract (e.g. claw back, performance metrics, governance), whilst leveraging the existing infrastructure, specialist skills and capacity of the commercial market, thereby minimising the cost and risk to Government;
- It is the least intrusive to the commercial market, providing a financial stimulus for private sector investment in areas of the market that are not commercially viable in return for contractual obligations and service level guarantees. The private sector continues to bear the operating, demand and technology risks as well as significant network investment risk, that it is best placed to manage;
- As the private sector retains the assets post the 25 year contract, the private sector operator will be able to fully integrate the new wholesale network with existing networks, maximising the reuse of existing infrastructure, providing significant economies of scale and incentivising continuous investment in and full commercial exploitation of the network; and
- The private sector will also have both commercial and contractual incentives to continue to invest in the network and to develop new products and services so that the network is "future proofed", offering services at a similar level to those available outside of the intervention area. This will help to minimise any requirement for further investment by the State in future years. These incentives are significantly reduced (particularly in later years when the investment is more likely to be required) if the subsidised assets are to revert to Government at the end of the contract period, as would be the case with the full concession option.

With a concession model, the assets would revert to the State. However, in a project such as this there is a limited value to the State of those assets in 25 years, particularly with a significant volume of the assets being rented from third parties. The NBP Contract does, however, include a 10 year additional period (up to 35 years) where the company is required to commit to the delivery of high speed broadband, otherwise the State has the right to buy back the business or assets.

There is no uniform approach to ownership of high-speed broadband networks currently being rolled out internationally. For example, the UK, Scotland and Luxembourg are using a gap funded model; France is using a concession model; Italy is using a mix of direct intervention (similar to our MANS), PPP and gap funding; Germany is using public and private sector models.

Ultimately, given the dispersed nature of the network to be built and the considerable reliance on existing third party infrastructure, the NBP intervention cannot be compared to other public networks such as the previous Telecom Eireann network that was sold, the public water network or the electricity distribution and transmission networks which are full national networks which can be ring fenced and the assets can be clearly identified.

The NBP network is also addressing the most expensive and remote premises. Since eir rolled its network out to all villages and surrounding areas, the commercial business case for the project and the likely terminal value of the network has diminished considerably. The Bidder will only achieve a future market value for the asset where it builds a business that is sustainable and maximises the use of the network through innovation and other commercial opportunities and builds a brand/intangible value over time. The private sector would not be incentivised to do this where the asset and business was to revert to the State.

The NBP contract does, however, provide the Minister with a charge over the assets that the Bidder actually purchases over the period of the contract. Similar to a charge held by a bank, the Minister can use this charge to take back the State funded assets for non-compliance with the contract terms.

In line with the requirements of the Public Spending Code, a reappraisal of the NBP State-led intervention was undertaken in Q1 2018 which assessed the project for consistency with programme objectives and for value for money. The reappraisal was undertaken as it was clear that the initial budget for the project was likely to be materially exceeded and SIRO and eir had at that point withdrawn from the procurement process leaving a single remaining bidder. The reappraisal considered a range of options including: do nothing (no intervention required); reducing the scope from 100%; stopping the current procurement process and considering an alternative way or ways to tender for non-commercial areas. The reappraisal concluded that continuation of the procurement targeting 100% coverage of the Intervention Area and using the gap funded ownership model was the optimum approach in order to deliver the strategic objectives of the NBP in a timely manner.

The possibility of a change in ownership model was explored as part of the reappraisal. It was clear from analysis carried out then that a new procurement process would be required if changing to a concessionaire model was considered a preferable approach. The Attorney General advised that there would be legal grounds to challenge a decision to change the ownership model on grounds of unequal treatment, lack of transparency and that there would be a material change in the proposed NBP Contract.

Governance Arrangements

The NBP contract places a range of onerous obligations on the Contractor as appropriate with the level of public subsidy involved. The governance of this contract will require significant oversight over a period of 25 years but in particular during the build phase. While the long term vision for the governance of the NBP contract involves the establishment of a new State agency, underpinned by statute, to manage and consolidate the State's involvement in the

telecoms sector, the responsibility for the governance of the NBP contract will remain in-house on an interim basis.

It is estimated that the in-house unit in the Department will require a budget of up to €10m per annum. This will initially include up to 10 permanent civil servants supported by specialist external services to effectively manage the contract which will include GIS, technical solutions and modelling, financial advisory and modelling, business consultancy, economic advisory, quality assurance, environmental and legal services.

The PwC recommendations on the NCH will be assessed and implemented for the NBP as appropriate if the Government decide to proceed with the project.

Conclusion

The Department has carried out rigorous analysis over the past three years to show that the project is compliant with the Public Spending Code. We have shared with your Department a substantial KPMG report which in summary states that the Government's policy objectives can be achieved with the remaining Bidder's proposition and that a robust and compliant solution has been put forward by the Bidder. This, together with the CBA report, which sets out the upper and lower case costs and benefits, still shows a positive BCR notwithstanding the changes to the Broadband Map since 2015 and the conservative nature of the cost and revenue assumptions made.

However, as set out in detail in the KPMG report, value for money can only be measured during the deployment and operations of the contract and will be dependent on the State putting in place a fit for purpose oversight and Governance regime.

Yours sincerely,

Mark Griffin
Secretary General

Appendix 1: Assessment of PwC independent review of National Children's Hospital (NCH)

Introduction

The Department has examined the PWC review of the NCH and applied, where relevant, the commentary and findings to the National Broadband (NBP).

Executive Summary Findings from PwC NCH report and the NBP

PWC NCH review	PwC NCH comments	NBP
Initial Planning	Significant failures occurred during the crucial planning of the project	• The NBP was subject to a detailed planning phase following agreement in April 2014 to establish an intervention strategy to achieve the Government's policy objectives. This included the development of a number of expert reports covering Technical, Governance, State Aid, Funding, Ownership, Procurement Strategy and Procurement Process. • The Intervention Strategy was the subject of a Public Consultation in 2015.
Procurement, and contracting strategy:	The understanding of the risk profile associated with the procurement and contracting strategy was poor at all levels of the governance structure.	• The procurement was carried out using a competitive dialogue process which is a procedure used for public procurements which are particularly complex and where the target solution is not known at the outset. It was expected, due to the complexity and scale of the project, that significant market engagement would be required to determine the optimum solution and that the ultimate cost would only become known following more detailed design work and detailed engagement with the bidders. • The competitive dialogue process allowed extensive engagement with all 3 bidders throughout, interrogation of various proposals and deepening of our understanding of likely subsidy levels, technology, construction and operation costs, demand, revenue projections, risk and risk allocation, etc. • Almost 400 meetings totalling about 880 hours of dialogue were held with bidders during the procurement process.

PWC NCH review	PwC NCH comments	NBP
Residual Risk (within price)	The GMP Process is not a fixed price and risks still remain with the NCH Project. If these are not effectively managed, it could lead to further cost rises in relation to the capital works from the current forecast	• The overall NBP budget is capped. All possible known scenarios of cost overruns have been modelled by the Bidders and separately by the Department's experts. • This has led to a base case subsidy requirement and a view on what is a reasonable conditional and contingent subsidy over and above the base case.
Contingency provision	There was no contingency in the capital budget to absorb risks that might emerge during the process of agreeing a GMP.	• The NBP contract allows for potential future unforeseen and unavoidable construction costs, or encroachment by commercial operators albeit these costs are capped. • The contract mechanisms to deal with this are comprehensive following detailed dialogue with Bidders.
Government investment decision	The DBC on which the Government made its investment decision, contained material errors and did not adhere to the Public Spending Code.	• The project has been managed in line with the Public Spending Code and updated in accordance with the Code at key decision points. • At the time of writing, Government has not made an investment decision for the NBP.
Executive team specific experience	NPH Executive: specific healthcare infrastructure development experience was more limited.	• The NBP Senior Team, the Programme Management Group has significant depth and breadth of experience. Team members include senior civil servants as well as on boarded team members with relevant experience covering Legal, Regulatory, Financial Audit, Commercial, Technical, Telecommunications Industry and Project experience. This team was also supported by KPMG, PwC, Analysys Mason and Mason Hayes Curran, all of whom have personnel with significant large infrastructure project experience.
Governance	The role of the governance structure became reactive with virtually no leverage to influence the outcome.	• Project governance under the competitive dialogue process required proactive engagement with bidders at all stages; almost 400 meetings totalling about 880 hours of dialogue were held with bidders during the procurement process. • Significant additional assessments were undertaken at key points during the procurement process including in relation to the eir 300k leading to the development of a new broadband Map, updating of the CBA at various stages, and a comprehensive project reappraisal when eir withdrew. A single bidder solution assessment report was

PWC NCH review	PwC NCH comments	NBP
		prepared to assess "value for money" in a single bidder situation. • The Department has developed a comprehensive set of protections and legally binding obligations which are outlined in the NBP intervention contract. These include: o A suite of key performance indicators to ensure the service is maintained appropriately o Significant penalties to address under performance o Substantial oversight arrangements to monitor progress, costs and take up etc. o Substantial claw-back provisions on cost savings achieved or to share in future excess profits o Significant checkpoint reviews at various stages in the project o oversight of the purchase of materials and subcontractor contracts year on year o Standalone Board responsible for the ringfenced operations and day to day management of NBPco with Board required to report to Minister monthly/quarterly and annually. o Ministerial appointee to the Board. o Independent audit of accounts o Strong Departmental team engaged on weekly/monthly basis with contractor through contract management board o Subsidy only released once proof of contract delivery provided by independent certification process o Bidder required to seek approval for changes to wholesale products/prices and deployment plans.
Option to proceed with alternative contractor	The procurement strategy included a mitigation option that in the event that a GMP could not be Agreed with the preferred tenderer, the NPH Client could procure and proceed with an alternative contractor. This was an unrealistic option which gave a false sense of security, and ultimately increased the risk inherent in the GMP Process.	• The NBP process has set a maximum price pre Final Tender submission and this is now contracted with the Bidder. • In the event the Bidder seeks further subsidy in the future the Minister can terminate the contract and there will be options at that point on how best to proceed, including the option to stop the project. • While difficult, it will also be possible to reengage with industry to complete any unfinished work where that is considered necessary.

PWC NCH review	PwC NCH comments	NBP
Flow of Information	The reporting of cost information was sporadic.	• Significant engagement with stakeholders since 2015 on budget estimates and updated budget estimates up to issue of the final tender invitation.
Residual Risk (within price)	The GMP Process is not a fixed price and risks still remain with the NPH Project. If these are not effectively managed, it could lead to further cost rises in relation to the capital works from the current forecast.	• The NBP contract is capped with this Bidder up to a maximum subsidy including VAT, with what is believed to be sufficient conditional and contingency subsidy for unavoidable and unforeseen future cost overruns.
Contract Exclusions	The contract contains exclusions that allow for recovery of costs relating to tender price inflation above 4%, as well as cost increases arising from statutory changes such as VAT increases;	• The NBP Bid model includes (it does not exclude) provisions for Subcontractor labour rate and materials inflation as budgeted for and also includes a capped conditional amount in the event that actual inflation is higher. Any additional cost to the Bidder over that provided for in the conditional subsidy of €480m sits with the Bidder.
Schedule Adherence	Any slippage against the agreed schedule could result in claims from Contractors for additional costs as a result of delays.	• The Contract with the Minister requires the Bidder to meet very detailed and measured milestones. Where a milestone is missed the bidder can only access the conditional subsidy allowance provided for with regard to 14 specific areas of risk identified during dialogue, up to the capped amount of €480m.Where the Bidder misses a milestone for other reasons then the Bidder must take all other construction risks itself.
Fixed Price	Whilst the GMP does provide for an enhanced position in respect to price certainty, it does not present a fixed price.	• The NBP has a final capped Subsidy position for the Project. The overall subsidy may only be reduced through savings and/or clawback of excess profits etc. Any cost overruns above the agreed subsidy must be borne by the Bidder.

PWC NCH review	PwC NCH comments	NBP
Budgeting (underestimation):	The capital budget did not contain sufficient risk contingency to allow for costs that would arise through the design development process	The NBP contract caters for contingency in considerable detail following nearly three years of modelling and dialogue with industry experts. Significant experience has also been leveraged from current commercial builds such as the eir 300k FTTH rural programme.
Red flags warning	Red flags warning that the budget was insufficient were missed	The NBP received two competitive bids (pre Final Tender stage) in September 2017 that were [redacted] and [redacted] respectively. Eir's withdrawal in January 2018 led to a) The initiation of a Project Reappraisal over Mar-Apr 2018. b) The introduction of a Refined Detailed Solutions phase to explore and dialogue costed solutions with the final bidder such that a decision on going to Final tender could be made with full information on likely NBP subsidy requirements.
Evaluation criteria	The tender evaluation criteria for the main construction contract was heavily weighted towards price (75%) with the lowest priced bidder securing all 750 of 1000 points.	Tender Evaluation criteria was 65% Technical and 35% Commercial (4% Demand Stimulation and 31% Price) with significant focus on quality, future proofing and Governance. This mitigated the risk of Bidders "low balling" for the contract and issues arising post contract award.
Cost Certainty	Cost Certainty in the project budget was overstated	NBP allows for potential future unforeseen and unavoidable construction costs, or encroachment by commercial operators albeit these costs are capped and fully transparent in terms of exposure of the State.
Risk of objective bias for large projects called out in public spending code	Objective bias called out in public spending code where optimistic estimates were made before engagement with industry	The NBP procurement process has resulted in conservative and prudent estimates for costs and demand following a more detailed understanding of the Project risk. All upsides are also factored in however through the inclusion of strict clawback provisions for underspend/excess profits.
Peer review	An external perspective, frequently in the form of a peer review is often needed to help identify potential weaknesses	The NBP process has included a significant amount of scrutiny from leading experts in the field of telecoms and infrastructure projects generally. For example the NDFA supported the NBP through provision of specific assistance as statutory financial adviser. ComReg , as the telecom sector's

PWC NCH review	PwC NCH comments	NBP
		National Regulatory Authority, has provided significant technical, economic and financial expertise. The NBP process also included a Steering Group and Procurement Board made up of external experts.
Oversight and challenge	There was inadequate oversight and challenge of the Design Team. The NPH executive and Board relied fully on the expertise provided by the Design Team.	The NBP PMG had significant Regulatory, Commercial and Technical competencies in its own right which provided robust oversight and challenge of the external Advisory teams. In addition, the NBP on boarded specialist personnel to support the NBP across Project Management, Financial and Commercial Services and Technical Services, with the purpose of having in-house expertise to help manage the external Advisory teams.
Project re-appraisal	The Public Spending Code requires that a revised cost effectiveness analysis, cost benefit analysis or re-appraisal be undertaken in the event that serious additional costs arise. This requirement was not complied with.	The NBP conducted a formal project re-appraisal in March 2018, following eir's departure from the procurement process. The Department also conducted a further project re-appraisal following submission of the Final Tender.
Fixed Price	Whilst the GMP does provide for an enhanced position in respect to price certainty, it does not present a fixed price.	The NBP has a final capped cost to the State. A final Subsidy position for the Project was presented in the Bidder's final bid which is the maximum exposure.

An Roinn Caiteachais Phoiblí
agus Athchóirithe
Department of Public
Expenditure and Reform

16 April, 2019.

Mr. Mark Griffin
Secretary General
Department of Communications, Climate Action and Environment
Adelaide Road
Dublin 2

Re: National Broadband Plan

Dear Mark,

You will be aware that the PWC report on the National Children's Hospital is very critical of the management of major infrastructural projects. The Government, in its Statement on the Report, said that we will learn lessons from the experience to be applied in future capital projects such as Broadband and Metro. Against that background, I feel I must write to you again in relation to the National Broadband Plan.

Having expressed our concerns on a number of occasions at this stage in relation to the affordability and value for money of the proposed contract for the National Broadband Plan, I wish to re-emphasise one further time this Department's fundamental concerns in relation to the unprecedented risk that the State is being asked to bear in the event that the current NBP contract is recommended for approval by Government.

Costs v Benefits

Any decision to approve the current contract and commit funding of up to €3 billion to this project over 25 years represents a major 'leap of faith' on the part of Government in relation to the benefits that will accrue from the project. Regarding the Cost Benefit Analysis that has been undertaken on the project as a whole (which has had to be revised on a number of occasions and with which we still have some queries in relation to the calculation of costs), we do not believe this CBA justifies the use of scarce public funds on this scale. The external, as opposed to private, benefits of this project do not warrant such large investment.

For example, I am very concerned with the economics associated with some of the individual connection decisions that will have to be made under the contract. I understand that the standard connection charge that any household or business will be required to pay is to be set at €100, even though the actual cost of connection could run to several thousand euro. Only where the connection cost exceeds €5,000 will an excess charge be applied, based on the cost above the €5,000 threshold. This represents a major subsidy from the taxpayer for private benefits. Are there equivalent subsidies available towards the economic cost of other utility connections, such as electricity, gas or water? Also, I understand that for aesthetic reasons, customers can opt to have their connection made other than by the most cost effective means (e.g. putting their cable connection underground instead of on poles). Can you confirm that any costs arising from exercising such discretion, with increased cost implications, will be fully borne by the customer, without any element of subsidy from the State?

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The key point here is that the backhaul infrastructure is being funded by taxpayers and this could be justified, but what is the rationale for the large connection subsidies? This assumes benefits to households of broadband of a scale not suggested by any study or by the willingness of households to pay for such connections.

Risks to the State

In terms of the long-term sustainability of the project, I believe that there are unprecedented risks to the Exchequer posed by this proposed project. The Government is being asked to commit up to €3 billion of Exchequer funding – up to €2.275 billion of which will be required by 2026 – in an area where technology is changing rapidly and where we face a number of significant risks to the successful completion of the project. New technological advances, or a lack of take-up of the service by intended customers, or a decision by the private operator to abandon the project, for whatever reason, could result in a 'stranded' obsolete asset, despite Exchequer investment of up to €2.275 billion by 2026 – in an asset that we will not even own.

As against this €3 billion Exchequer investment that is at risk, the private sector operator is only risking [redacted] of their own funds. I note that by 2028, the private operator is projected to have received [redacted] in dividends and interest, together with a repayment of [redacted] of the initial share capital, while the State will have spent up to €2.44 billion by that stage. In effect, the private operator will have all of their monies paid back while the Exchequer could have paid out almost €2.5 billion. And this is before significant connections have been made by service providers. In these circumstances, I would question whether the future risk associated with guaranteeing service provision over 25 years is genuinely transferred to the private operator or, in reality, actually retained by the Exchequer.

Furthermore, despite this huge imbalance in terms of the project risk that I believe is being borne by the State, the private operator is still entitled to [redacted] of any excess profits that may be generated over time. In effect, the private operator is being insulated from project risk while being afforded a massive upside potential in terms of any excess profitability. I also understand that the operator is projected to have a rate of return of [redacted] which seems very high given the risk profile of their investment.

All in all, I find it difficult to see how such a contract represents value for money for the State or is in the best interests of the taxpayer. I also find it difficult to believe that a convincing case can be made for this project, when these facts emerge.

In relation to how this very substantial risk for the State, associated with the long term viability of the project, is to be mitigated, I note that there are potential break points at Year 4 and Year 6, when the State has a right to halt the project entirely or take back the assets or the business where the project costs are materially trending off track. However, the projected cumulative cost of the State's investment at these two break points is potentially €1.19 billion and €1.95 billion respectively. Please advise me as to the measures in place to protect the State's investment in either of these scenarios. For example, would the State automatically take over ownership of the assets in the event that it was decided to terminate the project or appoint a new operator at one of these potential break points, or would the existing operator have to be paid for the assets or otherwise compensated?

I also understand that there is another potential break point at Year 10, when there is to be a significant assessment of the viability of the project for the remainder of the 25 year term, with the State again having the right to halt the project entirely or take back the assets or the business where the project is deemed to be unviable and the private contactor is unable to continue.

Again, what implications would this have for the State – e.g. would compensation be payable to the operator? If so, what value would attach to the asset at that point, given that the State could have invested [redacted] by then while the operator would have effectively recovered [redacted] of their initial investment by that date?

Finally, I am also concerned in relation to the operational risk that is posed by the complexity of the contract, and the challenge that managing a contact of this nature poses for your Department in terms of ensuring full compliance by the operator with the various provisions on charging, clawback of cost savings, profit sharing, etc. Please advise me as to the how you can ensure that this challenge is effectively managed by your Department.

I would welcome your views on this project's compliance with the Public Spending Code and on how the unprecedented risk for the State that is associated with this proposed project can be managed by your Department to ensure that value for money is achieved for the level of investment that is proposed.

Yours sincerely,

Robert Watt

Robert Watt
Secretary General